

Louisiana's Uninsured Population: Regional and Parish-level Estimates

Third Quarter 2008 Update

Ryan Bilbo, Research Associate

Department of Economics
E.J. Ourso College of Business
Louisiana State University

Kirby Goidel, Professor

Director of Public Policy Research
Reilly Center for Media & Public Affairs
Manship School of Mass Communication
Louisiana State University

Dek Terrell, Freeport-McMoran Professor

Director Division of Economic Development and Forecasting
Department of Economics
E.J. Ourso College of Business
Louisiana State University

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Overview: This report summarizes regional and parish-level estimates of uninsured children and adults. Estimates are based on data from the 2007 Louisiana Health Insurance Survey, historical data from prior Louisiana Health Insurance Surveys, and the most recent parish-level population, economic, and Medicaid/LaCHIP enrollment data available. In this report, we utilize a *blended* approach that makes use of survey data collected in 2007 and parish-level characteristics to develop estimates of uninsured populations. Specifically, we model uninsured rates as a function of parish-level unemployment, Medicaid/LaCHIP enrollments, the percent of children on free and reduced lunch (as an indicator of poverty), and household income. The blended approach is described more fully in Appendix A, as well as the complete specification of the model.

The results presented in this report reflect the best possible estimates of parish-level uninsured populations during the third quarter of 2008. Before we present the findings, a caveat is in order. The parish-level data used to generate the uninsured estimates are the most recent available. Even so, there is often a lag in the data used to generate the estimates and the period under consideration. For example, the most recent data on free and reduced lunches are from February 2008. This measure is an important predictor of the number of uninsured children, but has not been updated (because more recent data are not yet available). Because the measure was used in earlier estimates (from the first quarter 2008), our estimates of uninsured children may appear more stable than they really are.

Table 1: Source of Data and Time Period Covered

| Description | Period |
|---|---------------------------|
| 2007 Louisiana Health Insurance Survey | 2007 |
| LA Workforce Commission Unemployment Data | August 2008 (Preliminary) |
| LA-DHH Medicaid/LACHIP Enrollment | October 2008 |
| LA-DOE Free & Reduced School Lunch | February 2008 |
| U.S. Census Estimates by Parish | July 2007 |
| IRS Income Data | 2006 |

Regional Estimates: In Tables 2 & 3, we present the regional estimates for uninsured children (u19) and uninsured non-elderly adults (19-64). The numbers for children remain remarkably consistent relative to the March 2008 forecast. For example, the statewide uninsured rate for children remains at 5.6%. This consistency may be somewhat misleading as it likely reflects stability in the model more than stability in uninsured rates. We would expect to see larger changes in our fourth quarter when we have more recent data from the Louisiana Department of Education on free and reduced lunches.

The uninsured rate for adults, in contrast, has increased by a percentage point from 20.8% to 21.8% over the first three quarters of 2008. The percent of uninsured adults increases in each of the regions, most notably in the northeast where the percent of uninsured adults increased from 2.6 percentage points in 2008.

Table 2: Blended Estimates of the Percent and Number of Uninsured Children (Under 19) at the Regional Level

| | KIDS (%) | | | | KIDS (Count) | | | |
|---------------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|
| Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| 1: New Orleans | 9.0% | 9.1% | 8.9% | 8.8% | 15,845 | 16,159 | 14,776 | 14,640 |
| 2: Baton Rouge | 4.3% | 4.7% | 4.7% | 4.7% | 8,134 | 8,168 | 8,233 | 8,238 |
| 3: Houma-Thibodeaux | 4.1% | 4.2% | 4.1% | 4.2% | 4,635 | 4,569 | 4,523 | 4,534 |
| 4: Acadiana | 5.2% | 5.5% | 5.4% | 5.3% | 8,800 | 8,755 | 8,667 | 8,592 |
| 5: Southwest | 5.8% | 5.8% | 5.7% | 5.7% | 4,384 | 4,368 | 4,327 | 4,327 |
| 6: Central | 4.6% | 4.6% | 4.6% | 4.5% | 3,803 | 3,787 | 3,730 | 3,712 |
| 7: Northwest | 4.6% | 4.7% | 4.7% | 4.7% | 6,777 | 6,778 | 6,721 | 6,703 |
| 8: Northeast | 5.0% | 4.9% | 4.8% | 4.8% | 4,740 | 4,682 | 4,540 | 4,513 |
| 9: Northshore | 4.7% | 5.3% | 5.2% | 5.2% | 7,233 | 7,226 | 7,418 | 7,365 |
| Statewide | 5.6% | 5.6% | 5.6% | 5.5% | 64,351 | 64,491 | 62,924 | 62,624 |

Table 3: Blended Estimates of the Percent and Number of Uninsured Children (Under 19) at the Regional Level

| | ADULTS (%) | | | | ADULTS (Count) | | | |
|---------------------|---------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| 1: New Orleans | 21.2% | 21.5% | 21.7% | 22.1% | 89,962 | 92,379 | 96,857 | 98,331 |
| 2: Baton Rouge | 17.3% | 16.9% | 17.2% | 17.6% | 66,977 | 67,848 | 69,067 | 70,465 |
| 3: Houma-Thibodeaux | 19.6% | 19.3% | 19.5% | 19.9% | 47,042 | 46,931 | 47,624 | 48,406 |
| 4: Acadiana | 19.7% | 19.4% | 19.7% | 20.0% | 66,504 | 67,216 | 68,049 | 69,252 |
| 5: Southwest | 27.8% | 27.2% | 27.4% | 27.7% | 46,702 | 46,803 | 47,265 | 47,774 |
| 6: Central | 21.1% | 21.3% | 21.7% | 22.2% | 37,541 | 37,812 | 38,509 | 39,361 |
| 7: Northwest | 23.8% | 25.0% | 25.3% | 25.8% | 78,641 | 79,272 | 80,150 | 81,479 |
| 8: Northeast | 23.6% | 25.1% | 25.6% | 26.2% | 51,324 | 51,563 | 52,677 | 53,963 |
| 9: Northshore | 20.7% | 19.5% | 19.7% | 20.0% | 61,651 | 62,326 | 62,140 | 63,077 |
| Statewide | 20.8% | 21.0% | 21.4% | 21.8% | 546,344 | 552,150 | 562,338 | 572,109 |

Parish-Level Estimates: The parish-level estimates for children and adults are presented in Tables 4 and 5. For the most part, the results are consistent with the March 2008 quarterly report; however, there are a few notable exceptions:

- The percent of uninsured children in Orleans and St. Bernard parishes have declined by 1 and 3.1 percentage points, respectively. This reflects the fact that Medicaid/LaCHIP enrollments are increasing faster than the population. We should note that our population estimates are based on July 2007 data and lag our Medicaid/LaCHIP enrollment data.
- The percent of uninsured adults has increased 2.3 percentage points in Richland parish due to a large increase in unemployment since the survey last year. Unemployment in Richland parish has increased from 4% in 2007 to 7.2% in 2008Q3.

Table 4: Blended Estimates of the Percent and Number of Uninsured Children at the Parish-Level

| GEOGRAPHY | | KIDS (%) | | | | KIDS (count) | | | |
|----------------------|------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Jefferson | 1 | 8.90% | 8.90% | 9.00% | 9.00% | 9,742 | 9,561 | 9,440 | 9,480 |
| Orleans | 1 | 9.50% | 9.60% | 8.90% | 8.60% | 5,253 | 5,668 | 4,543 | 4,403 |
| Plaquemines | 1 | 6.90% | 7.00% | 7.20% | 7.50% | 454 | 442 | 429 | 442 |
| St. Bernard | 1 | 11.00% | 10.7% | 8.90% | 7.90% | 395 | 487 | 354 | 316 |
| Ascension | 2 | 6.80% | 6.70% | 6.4%0 | 6.20% | 1,894 | 1,881 | 1,913 | 1,828 |
| East Baton Rouge | 2 | 4.20% | 4.10% | 4.20% | 4.30% | 4,913 | 4,925 | 4,985 | 5,059 |
| East Feliciana | 2 | 2.60% | 2.80% | 3.00% | 3.20% | 134 | 142 | 150 | 162 |
| Iberville | 2 | 3.10% | 3.20% | 3.40% | 3.50% | 264 | 274 | 278 | 291 |
| Pointe Coupee | 2 | 7.90% | 8.30% | 7.80% | 7.60% | 465 | 483 | 440 | 429 |
| West Baton Rouge | 2 | 5.90% | 5.90% | 5.90% | 6.00% | 355 | 357 | 362 | 364 |
| West Feliciana | 2 | 4.00% | 4.00% | 4.00% | 4.10% | 109 | 106 | 103 | 105 |
| Assumption | 3 | 7.80% | 7.50% | 6.80% | 6.30% | 476 | 447 | 398 | 373 |
| Lafourche | 3 | 3.30% | 3.30% | 3.30% | 3.40% | 799 | 795 | 798 | 811 |
| St. Charles | 3 | 3.10% | 3.10% | 3.20% | 3.20% | 457 | 450 | 463 | 468 |
| St. James | 3 | 7.40% | 7.30% | 6.90% | 6.70% | 452 | 443 | 406 | 395 |
| St. John The Baptist | 3 | 8.40% | 8.20% | 8.10% | 8.00% | 1,210 | 1158 | 1,168 | 1151 |
| St. Mary | 3 | 4.60% | 4.60% | 4.40% | 4.40% | 677 | 661 | 628 | 621 |
| Terrebonne | 3 | 1.80% | 2.00% | 2.20% | 2.40% | 565 | 614 | 662 | 714 |
| Acadia | 4 | 6.90% | 6.80% | 6.60% | 6.40% | 1218 | 1181 | 1,141 | 1106 |
| Evangeline | 4 | 5.90% | 6.00% | 5.90% | 5.90% | 615 | 618 | 610 | 611 |
| Iberia | 4 | 3.00% | 3.10% | 3.20% | 3.20% | 655 | 664 | 679 | 697 |
| Lafayette | 4 | 5.10% | 5.00% | 5.10% | 5.10% | 2804 | 2815 | 2,843 | 2857 |
| St. Landry | 4 | 5.70% | 5.70% | 5.70% | 5.70% | 1502 | 1498 | 1,488 | 1483 |
| St. Martin | 4 | 7.00% | 7.00% | 6.70% | 6.40% | 990 | 992 | 956 | 918 |
| Vermilion | 4 | 6.70% | 6.60% | 6.40% | 6.20% | 1,016 | 988 | 949 | 921 |
| Allen | 5 | 4.20% | 4.40% | 4.50% | 4.60% | 261 | 277 | 277 | 284 |
| Beauregard | 5 | 5.70% | 5.80% | 5.80% | 5.80% | 521 | 521 | 529 | 531 |
| Calcasieu | 5 | 5.70% | 5.70% | 5.70% | 5.70% | 2845 | 2832 | 2,822 | 2820 |

| GEOGRAPHY | | KIDS (%) | | | | KIDS (count) | | | |
|-----------------|------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Cameron | 5 | 7.80% | 7.70% | 7.40% | 7.40% | 155 | 144 | 122 | 122 |
| Jefferson Davis | 5 | 6.80% | 6.80% | 6.60% | 6.50% | 602 | 594 | 577 | 570 |
| Avoyelles | 6 | 3.80% | 3.80% | 4.00% | 4.00% | 427 | 423 | 441 | 447 |
| Catahoula | 6 | 3.60% | 3.70% | 3.70% | 3.70% | 95 | 98 | 96 | 96 |
| Concordia | 6 | 5.90% | 5.70% | 5.30% | 5.00% | 301 | 286 | 261 | 249 |
| Grant | 6 | 2.30% | 2.60% | 2.90% | 3.00% | 121 | 137 | 152 | 158 |
| La Salle | 6 | 1.90% | 2.10% | 2.30% | 2.40% | 66 | 73 | 80 | 86 |
| Rapides | 6 | 5.00% | 4.90% | 4.90% | 4.80% | 1744 | 1726 | 1,711 | 1691 |
| Vernon | 6 | 5.20% | 5.20% | 5.20% | 5.20% | 832 | 840 | 802 | 805 |
| Winn | 6 | 5.70% | 5.50% | 5.10% | 4.90% | 216 | 203 | 186 | 179 |
| Bienville | 7 | 4.50% | 4.60% | 4.60% | 4.70% | 174 | 175 | 173 | 175 |
| Bossier | 7 | 3.30% | 3.30% | 3.40% | 3.50% | 1002 | 1021 | 1,062 | 1076 |
| Caddo | 7 | 5.10% | 5.10% | 5.00% | 5.00% | 3,488 | 3,442 | 3,406 | 3,392 |
| Claiborne | 7 | 6.50% | 6.70% | 6.20% | 6.00% | 249 | 257 | 226 | 219 |
| De Soto | 7 | 6.40% | 6.40% | 6.10% | 6.00% | 454 | 450 | 432 | 421 |
| Natchitoches | 7 | 6.20% | 6.20% | 6.20% | 6.10% | 687 | 705 | 692 | 680 |
| Red River | 7 | 3.20% | 3.20% | 3.40% | 3.60% | 85 | 85 | 89 | 94 |
| Sabine | 7 | 5.50% | 5.50% | 5.40% | 5.40% | 346 | 341 | 331 | 329 |
| Webster | 7 | 2.90% | 3.00% | 3.10% | 3.20% | 292 | 303 | 309 | 317 |
| Caldwell | 8 | 4.30% | 4.20% | 4.30% | 4.30% | 110 | 105 | 105 | 105 |
| East Carroll | 8 | 8.20% | 7.90% | 7.30% | 7.00% | 219 | 202 | 173 | 167 |
| Franklin | 8 | 1.50% | 1.60% | 1.70% | 1.80% | 81 | 85 | 88 | 94 |
| Jackson | 8 | 2.90% | 3.10% | 3.30% | 3.40% | 108 | 117 | 124 | 128 |
| Lincoln | 8 | 5.50% | 5.60% | 5.50% | 5.50% | 633 | 651 | 642 | 640 |
| Madison | 8 | 7.50% | 7.20% | 6.70% | 6.50% | 286 | 267 | 241 | 233 |
| Morehouse | 8 | 6.60% | 6.50% | 6.20% | 6.10% | 526 | 499 | 463 | 454 |
| Ouachita | 8 | 4.60% | 4.60% | 4.50% | 4.50% | 1962 | 1943 | 1,919 | 1919 |
| Richland | 8 | 1.60% | 1.70% | 1.90% | 2.10% | 87 | 92 | 104 | 112 |
| Tensas | 8 | 4.70% | 4.90% | 4.90% | 5.10% | 75 | 74 | 71 | 74 |

| GEOGRAPHY | | KIDS (%) | | | | KIDS (count) | | | |
|--------------|------------|---------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Union | 8 | 8.00% | 8.00% | 7.60% | 7.40% | 463 | 462 | 442 | 428 |
| West Carroll | 8 | 6.70% | 6.70% | 6.10% | 5.80% | 190 | 186 | 168 | 159 |
| Livingston | 9 | 3.00% | 3.10% | 3.20% | 3.20% | 947 | 970 | 1,041 | 1058 |
| St. Helena | 9 | 8.50% | 8.40% | 8.40% | 8.40% | 241 | 234 | 231 | 232 |
| St. Tammany | 9 | 4.20% | 4.20% | 4.30% | 4.30% | 2,550 | 2,487 | 2,609 | 2,625 |
| Tangipahoa | 9 | 7.10% | 7.10% | 7.10% | 7.00% | 2222 | 2266 | 2,307 | 2265 |
| Washington | 9 | 10.70% | 10.7% | 10.20% | 9.80% | 1272 | 1267 | 1,229 | 1184 |

Table 5: Blended Estimates of the Percent and Number of Uninsured Adults at the Parish-Level

| GEOGRAPHY | | ADULTS (%) | | | | ADULTS (Count) | | | |
|----------------------|------------|---------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Jefferson | 1 | 21.1% | 21.2% | 21.5% | 21.8% | 55,640 | 54,934 | 56,052 | 56,840 |
| Orleans | 1 | 21.1% | 21.3% | 21.4% | 21.8% | 28,660 | 30,986 | 33,709 | 34,325 |
| Plaquemines | 1 | 19.5% | 19.9% | 20.5% | 20.9% | 2,612 | 2,543 | 2,706 | 2,767 |
| St. Bernard | 1 | 30.7% | 30.9% | 31.1% | 31.2% | 3,050 | 3,916 | 4,390 | 4,399 |
| Ascension | 2 | 15.0% | 15.2% | 15.3% | 15.6% | 9,257 | 9,532 | 9,411 | 9,599 |
| East Baton Rouge | 2 | 16.7% | 16.8% | 17.0% | 17.3% | 44,242 | 44,581 | 45,464 | 46,199 |
| East Feliciana | 2 | 16.9% | 17.4% | 18.1% | 19.0% | 2,244 | 2,301 | 2,417 | 2,526 |
| Iberville | 2 | 20.4% | 21.2% | 21.8% | 22.6% | 4,225 | 4,318 | 4,491 | 4,656 |
| Pointe Coupee | 2 | 17.5% | 18.4% | 19.1% | 19.8% | 2,373 | 2,461 | 2,562 | 2,657 |
| West Baton Rouge | 2 | 19.5% | 19.7% | 20.0% | 20.5% | 2,749 | 2,806 | 2,834 | 2,902 |
| West Feliciana | 2 | 16.4% | 16.6% | 16.8% | 17.1% | 1,887 | 1,849 | 1,888 | 1,924 |
| Assumption | 3 | 22.1% | 22.3% | 22.3% | 22.6% | 3,211 | 3,182 | 3,200 | 3,241 |
| Lafourche | 3 | 16.3% | 16.5% | 16.9% | 17.2% | 9,435 | 9,473 | 9,719 | 9,921 |
| St. Charles | 3 | 14.0% | 14.2% | 14.5% | 15.0% | 4,610 | 4,614 | 4,721 | 4,861 |
| St. James | 3 | 23.9% | 24.3% | 24.3% | 24.8% | 3,099 | 3,125 | 3,160 | 3,217 |
| St. John The Baptist | 3 | 18.8% | 19.1% | 19.6% | 20.3% | 5,642 | 5,623 | 5,720 | 5,905 |
| St. Mary | 3 | 20.3% | 20.6% | 20.8% | 21.2% | 6,215 | 6,232 | 6,351 | 6,465 |
| Terrebonne | 3 | 22.2% | 22.2% | 22.2% | 22.2% | 14,829 | 14,681 | 14,753 | 14,795 |
| Acadia | 4 | 22.4% | 22.5% | 22.5% | 22.7% | 7,955 | 7,904 | 7,892 | 7,944 |
| Evangeline | 4 | 20.9% | 21.3% | 21.8% | 22.4% | 4,409 | 4,482 | 4,600 | 4,726 |
| Iberia | 4 | 20.4% | 20.7% | 21.0% | 21.5% | 9,142 | 9,207 | 9,341 | 9,523 |
| Lafayette | 4 | 16.6% | 16.7% | 16.9% | 17.2% | 21,052 | 21,348 | 21,645 | 22,008 |
| St. Landry | 4 | 20.4% | 20.7% | 21.2% | 21.7% | 10,813 | 10,960 | 11,153 | 11,440 |
| St. Martin | 4 | 22.0% | 22.3% | 22.5% | 22.8% | 6,996 | 7,148 | 7,169 | 7,266 |
| Vermilion | 4 | 18.3% | 18.5% | 18.8% | 19.1% | 6,137 | 6,168 | 6,248 | 6,345 |
| Allen | 5 | 27.6% | 28.3% | 28.9% | 29.5% | 4,445 | 4,568 | 4,679 | 4,790 |
| Beauregard | 5 | 25.7% | 26.1% | 26.4% | 26.8% | 5,573 | 5,591 | 5,602 | 5,694 |

| GEOGRAPHY | | ADULTS (%) | | | | ADULTS (Count) | | | |
|-----------------|------------|---------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Calcasieu | 5 | 27.1% | 27.2% | 27.3% | 27.5% | 30,279 | 30,303 | 30,543 | 30,786 |
| Cameron | 5 | 28.5% | 28.4% | 28.2% | 28.2% | 1,387 | 1,318 | 1,377 | 1,376 |
| Jefferson Davis | 5 | 27.5% | 27.7% | 28.0% | 28.4% | 5,017 | 5,022 | 5,063 | 5,128 |
| Avoyelles | 6 | 24.4% | 24.6% | 25.2% | 25.9% | 6,314 | 6,305 | 6,423 | 6,582 |
| Catahoula | 6 | 29.4% | 29.3% | 29.0% | 29.1% | 1,875 | 1,851 | 1,841 | 1,845 |
| Concordia | 6 | 22.9% | 23.3% | 23.8% | 24.5% | 2,608 | 2,597 | 2,645 | 2,722 |
| Grant | 6 | 25.8% | 26.0% | 25.9% | 26.0% | 3,133 | 3,134 | 3,091 | 3,112 |
| La Salle | 6 | 17.4% | 17.8% | 18.3% | 18.9% | 1,471 | 1,500 | 1,537 | 1,582 |
| Rapides | 6 | 18.6% | 18.8% | 19.3% | 19.8% | 14,492 | 14,682 | 14,980 | 15,383 |
| Vernon | 6 | 19.7% | 20.0% | 20.4% | 20.8% | 5,155 | 5,295 | 5,523 | 5,644 |
| Winn | 6 | 25.4% | 25.4% | 25.5% | 25.8% | 2,492 | 2,449 | 2,469 | 2,490 |
| Bienville | 7 | 28.1% | 28.5% | 28.8% | 29.4% | 2,435 | 2,424 | 2,458 | 2,507 |
| Bossier | 7 | 18.3% | 18.5% | 19.0% | 19.4% | 11,884 | 12,213 | 12,361 | 12,678 |
| Caddo | 7 | 25.2% | 25.4% | 25.6% | 26.0% | 38,067 | 38,173 | 38,551 | 39,133 |
| Claiborne | 7 | 29.3% | 29.8% | 30.1% | 30.6% | 2,832 | 2,894 | 2,999 | 3,049 |
| De Soto | 7 | 28.6% | 29.0% | 29.2% | 29.6% | 4,528 | 4,570 | 4,576 | 4,647 |
| Natchitoches | 7 | 24.8% | 25.3% | 26.3% | 27.0% | 5,647 | 5,872 | 6,147 | 6,320 |
| Red River | 7 | 32.5% | 32.5% | 32.8% | 33.3% | 1,761 | 1,715 | 1,723 | 1,751 |
| Sabine | 7 | 31.5% | 31.2% | 30.9% | 30.9% | 4,354 | 4,274 | 4,259 | 4,254 |
| Webster | 7 | 29.4% | 29.7% | 29.5% | 29.8% | 7,132 | 7,138 | 7,077 | 7,140 |
| Caldwell | 8 | 31.5% | 31.1% | 30.9% | 30.8% | 2,069 | 1,985 | 1,968 | 1,967 |
| East Carroll | 8 | 35.6% | 35.8% | 35.8% | 36.4% | 1,752 | 1,681 | 1,729 | 1,759 |
| Franklin | 8 | 28.2% | 28.7% | 29.0% | 29.7% | 3,289 | 3,277 | 3,335 | 3,413 |
| Jackson | 8 | 21.9% | 22.5% | 23.1% | 23.7% | 1,959 | 2,006 | 2,050 | 2,104 |
| Lincoln | 8 | 21.1% | 21.6% | 22.5% | 23.4% | 5,349 | 5,572 | 5,829 | 6,059 |
| Madison | 8 | 30.6% | 31.2% | 31.7% | 32.6% | 2,166 | 2,122 | 2,176 | 2,237 |
| Morehouse | 8 | 25.9% | 26.6% | 27.3% | 28.4% | 4,479 | 4,447 | 4,578 | 4,750 |
| Ouachita | 8 | 23.3% | 23.4% | 23.8% | 24.2% | 20,677 | 20,810 | 21,133 | 21,546 |
| Richland | 8 | 23.4% | 24.0% | 25.3% | 26.3% | 2,832 | 2,892 | 3,059 | 3,181 |

| GEOGRAPHY | | ADULTS (%) | | | | ADULTS (Count) | | | |
|--------------|------------|---------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|-----------------|
| Parish | DHH Region | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast | 2007 Estimate | 2008Q1 Forecast | 2008Q2 Forecast | 2008Q3 Forecast |
| Tensas | 8 | 34.4% | 34.6% | 34.6% | 35.0% | 1,260 | 1,214 | 1,225 | 1,240 |
| Union | 8 | 24.6% | 25.3% | 25.9% | 26.7% | 3,327 | 3,393 | 3,450 | 3,546 |
| West Carroll | 8 | 31.1% | 31.5% | 31.4% | 31.6% | 2,165 | 2,164 | 2,146 | 2,161 |
| Livingston | 9 | 18.6% | 18.8% | 19.1% | 19.4% | 13,678 | 14,028 | 13,922 | 14,152 |
| St. Helena | 9 | 29.4% | 29.5% | 29.7% | 30.2% | 1,921 | 1,900 | 1,920 | 1,955 |
| St. Tammany | 9 | 13.4% | 13.5% | 13.8% | 14.1% | 19,295 | 19,108 | 19,128 | 19,609 |
| Tangipahoa | 9 | 25.2% | 25.5% | 25.7% | 26.1% | 17,584 | 18,099 | 18,070 | 18,332 |
| Washington | 9 | 34.5% | 34.4% | 34.0% | 33.9% | 9,173 | 9,191 | 9,047 | 9,029 |

Appendix A

Technical Discussion of the Methodology

The purpose of this section is to describe the methodology used to produce the parish-level estimates. Discussion on small area estimation, sample size, and parish and regional level estimates are included in this section. Small area estimation allows us to obtain estimates of the percent of uninsured citizens on parish-level characteristics. The estimates are based on data collected in the 2007 Louisiana Health Insurance Survey and parish-level data on Medicare enrollments, population characteristics, and economic indicators.

Small Area Estimation

Various methods of *small area estimation* exist, and while each provides insight into the study of health policy, different techniques offer different strengths and weaknesses. The various methods include:

- Direct survey estimation;
- Synthetic estimation; and
- Blended estimation.

The simplest method is *direct survey estimation*, which uses the survey to estimate the proportion of uninsured in each parish. The synthetic estimation method consists of constructing estimates of parish health insurance coverage rates by building a statistical model to predict parish-level insurance coverage rates. In essence, the statistical model takes advantage of the fact that we would expect parishes that are similar in terms of other characteristics (income, Medicaid enrollment, etc.) to have similar insurance coverage rates. Finally, this blended estimation option, called *information borrowing*, allows us to blend the survey estimates with synthetic estimates. The blended estimates place greater weight on the direct survey estimates in parishes where a large sample exists and rely more heavily on synthetic estimates in parishes where the sample size is small. We utilize the blended estimates to take advantage of the large survey observations including in the 2007 Louisiana Health Insurance Survey and to update our expectations based on parish-level characteristics such as unemployment.

Construction of Synthetic Estimates

Our methodology consists of constructing synthetic estimates of parish uninsurance rates similar to:

$$\hat{y}_i^{Synthetic} = \hat{\beta}_0 + \hat{\beta}_1 x_{1i} + \hat{\beta}_2 x_{2i} + \dots + \hat{\beta}_k x_{ki}$$

Intuitively, the methodology should use the survey estimate y_i^{Direct} when the survey estimate is accurate and $y_i^{Synthetic}$ when the survey standard error is large and y_i^{Direct} is inaccurate. We accomplish this goal by creating a blended estimate:

$$y_i^{Blended} = w_1 y_i^{Direct} + w_2 y_i^{Synthetic}$$

where $w_1 = 1 - \frac{SE(Y^{Direct})}{(SE(Y^{Direct}) + SE(Y^{Synthetic}))}$ and

$$w_2 = \frac{SE(Y^{Direct})}{(SE(Y^{Direct}) + SE(Y^{Synthetic}))}.$$
¹

Equations A.1 and A.2 below provide OLS estimates of parish uninsurance rates for children under 19 and adults 19-64 respectively. For the children's equation, the independent variable is equal to the child's probability of being uninsured. For many children, this is simply zero or one depending on the survey response. But, for

¹ Note that this weighting scheme differs from the pure empirical Bayes used in the 2003 LHIS and tends to place more weight on direct estimates for our sample. We thank Gestur Davidson of SHADAC for suggesting the new weights.

children who are eligible for Medicaid, the bias correction model was used to assign a probability of being on Medicaid based on the individual and family characteristics. The explanatory variables are the percent of working age adults in the house who are unemployed (*PCTUNEMP*), an indicator equal to one if the child lives in a family below 185% of the federal poverty line (*LT185FPL*), household income (*HHINC*), an indicator equal to one if the child is black (*BLACK*), an indicator equal to one if the child is female (*FEMALE*), an indicator equal to one if the child is on Medicaid or LACHIP (*MEDICAID*), three dummy variables for age (*A2-A4*), and dummy variables for DHH region (*D2-D8*). Note that we constrain the coefficients of *LT185FPL* and *MEDICAID* to sum to zero.

Children under 19:

$$\begin{aligned} \hat{y}_i^{Synthetic} = & .0734 + .023PCTUNEMP + .107LT185FPL + 1.17e-08HHINC - .009BLACK \\ (A.1) \quad & - .006FEMALE - .107MEDICAID + .006A2 + .005A3 + .010A4 \\ & - .040D2 - .042D3 - .041D4 - .0204D5 - .044D6 - .037D7 - .032D8 - .034D9 \end{aligned}$$

The adults equation deletes the Medicaid indicator, but is otherwise similar with the only exception being that there are more age groups defined to cover the broader range 19-64.

Adults 19-64:

$$\begin{aligned} \hat{y}_i^{Synthetic} = & .162 + .214PCTUNEMP + .220LT185FPL - 6.26e-08HHINC + .035BLACK \\ (A.2) \quad & - .014FEMALE + .005A2 - .036A3 - .058A4 - .103A5 \\ & - .041D2 - .004D3 - .003D4 + .051D5 + .030D6 + .030D7 + .046D8 + .032D9 \end{aligned}$$

Overall results appear as expected. Rates of uninsurance are higher among poorer individuals and among the unemployed.

Given the sample sizes, we have more confidence in our regional estimates and scaled the parish-level estimates so that the regional totals match those from the full report. This process of scaling the parish estimates to equal regional estimates is called raking the estimates and ensures consistency across reports.